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MAY 16 2005

Application No. 09/875,323
Attorney Docket No. 3833-010852

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/875,323 CONFIRMATION NO. 7514
Applicants : Dale Starkey
Filed : June 6, 2001
Title : EPOXY MOLDING COMPOUNDS CONTAINING
: PHOSPHOR AND PROCESS FOR PREPARING
: SUCH COMPOSITIONS
Group Art Unit : 1712
Examiner : Robert E. Sellers

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF PRIOR INVENTION UNDER 37 C.F.R. §1.131

I, Dale Starkey, hereby declare as follows:

1. I am named as the inventor of the invention described and claimed in the above-referenced application.

2. I am currently an employee of Henkel Corporation [into which was merged effective January 1, 2004 Henkel Loctite Corporation, which name had been Loctite Corporation (assignee of record of the present application by way of an assignment document recorded at the Assignment Branch of the U.S. Patent and Trademark Office at reel and frame 012239/0561) but was changed May 16, 2002], and at the time of conceiving and reducing to practice the invention described and claimed in the subject application was employed by Loctite Corporation.

{00187971.2}

Application No. 09/875,323
Attorney Docket No. 3833-010852

3. I submit this Declaration in support of the subject application to establish the conception and reduction to practice of the invention described and claimed therein in the United States at a date prior to November 17, 2000, i.e., the filing date of U.S. Patent No. 6,518,600 to Shaddock ("Shaddock"), which was cited in an Office Action mailed March 15, 2005 in connection with the above-referenced application.

4. From the document attached hereto as Exhibit A and as set forth below, the invention was completed, i.e., that is, conceived of and reduced to practice, prior to November 17, 2000, the filing date of Shaddock. Conception and reduction to practice of the invention in the United States prior to November 17, 2000 is shown by the preparation and evaluation of an epoxy composition composed of an epoxy resin component, an anhydride component, a polyol component, and a light-emitting phosphor material uniformly distributed throughout the composition through partial curing of the composition with the phosphor material suspended therein.

5. To establish conception and reduction to practice, i.e., completion of the invention, at a date prior to November 17, 2000, a photocopy of pages 77-79 from my Laboratory Notebook No. 2750, identifying Project No. L00-98L, are attached hereto as Exhibit A. The dates appearing in the notebook pages have been redacted as have been names of any commercial suppliers of the materials set forth in those pages.

6. The experimentation as described in NB2750-78 of Exhibit A involved mixing an epoxy resin (RE0088, triglycidyl isocyanurate), an anhydride component (HD3887, hexahydrophthalic anhydride), and a phosphor material (QUMK58), and increasing the viscosity of this mixture by adding a polyol (ACO118, glycerin) to initiate reaction of the composition and form an intermediate while maintaining the phosphor material uniformly suspended therein by continued mixing. This intermediate was thereafter B-staged through partial curing of the epoxy with the phosphor material substantially uniformly distributed through the composition.


{W0187971.2}

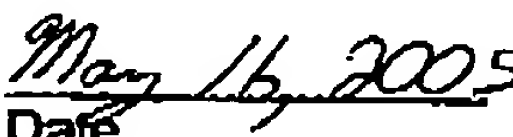
Application No. 09/875,323
Attorney Docket No. 3833-010852

7. Additional experimentation as described in NB2750-79 of Exhibit A was conducted in a similar manner to form the partially cured epoxy composition with the phosphor material substantially uniformly distributed therein in the form of B-staged pellets. One of the pellets thus formed was sawed in half horizontally and the filler content (the phosphor content) was measured in both halves. As set forth in Exhibit A, no significant difference in phosphor content between the halves was observed, with the top half recorded as having 1.48% filler and the bottom half recorded as having 1.50% filler. Accordingly, the phosphor material was substantially uniformly distributed throughout the composition by partially curing the epoxy with the phosphor material substantially uniformly suspended therein.

8. Exhibit A therefore establishes that the invention as claimed was completed, i.e., conceived and reduced to practice, at a date prior to November 17, 2000, the filing date of Shaddock.

9. I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.


Dale Starkey


Date

(4018777.2)

Object: Add 0.5% Phosphorus to M4-1E
Phosphorus

(211m x 58)

NP2730-7.7

		7.5	
HD3882	50.96	382.20	① Add everything except AC0118 & heat to 109°C
RE0028	35.92	1291.70	Soak above 100°C for 20 min.
AC6069	1.00	7.50	Looks green & milky. (2.5 Torr)
TM0498	0.50	3.75	② Cool to 65°C
AC0118	8.12	60.90	③ Add Glycerine - cooled to ~ 55°C
MS8 Phosphorus	0.50	3.75	④ Heat again under vacuum (1.1 Torr)
	100.00	750.00	Hit 75 at 2:45. Hold at 75°C for 20 min.

⑤ Pour into 25gram traps.

⑥ Start Program at about 3:15pm

pulled @ 7:00

Restart @ 65°C @ 08:00

Test Time: 26 hrs has cooled

- 5 hrs

= 31 hrs.

Pn	1					
nS	3					
Seg	1	2	3	4	5	6
rt	020	030	8.0			
SP	65	25	65			
E1						
E2						
E3						
SI	2	2	10			
E1						
E2						
E3						
PLCI						
dhru						
dhrd						
PEnd						

OUT 13:00

Flow ~ 41.5

RESSE AND UNDERSTOOD

DATE

DATE

SIGNED

DATE

Dale Stanley

Exhibit A

78 DATE

SUBJECT

Phosphor

PROJECT NO. 100-986

Object Add 10% Phosphor to M&E

NB2750-78

X10

HD3827	50.70	507.00gr
RED0028	38.72	387.20gr
AC6069	1.00	10.00gr
IM0498	0.50	5.00gr
AC0118	8.08	80.80gr
QUINLESS Phosphor	1.00	10.00gr
	100.00	1000 grams

Sample Identification		NB2750-78 with Phosphor 1.0%		(Scale 83.9)		(Anhyd 1.88)	
Step	Raw material	Formula percentage	Amount added grams	Temp. @ addition degrees Celsius	Low-High Temp. degrees Celsius	Total mix time minutes	vacuum level torr
1	HD3827	50.70	507.00	Start	24108	30	9.7
2	RED0028	38.72	387.20	Start	34108	30	9.7
3	AC6069	1.00	10.00	Start	34108	30	9.7
4	Phosphor	1.00	10.00	Start	7580	30	9.7
5	IM0498	0.50	5.00	Start	7580	30	9.7
6	AC0118	8.08	80.80	65	8575	20	1.1
7							
8							
9							
10							

Added all ingredients with the exception of AC0118 and heated to 104°C. With soak for ~30 minutes before cooling to add AC0118. Total mix time with heat up and soak is 60 minutes. The solution is very homogeneous at this time. Cooled to 67°C and added the AC0118. The temperature dropped to 64°C and heat was reapplied. It took approximately 5 minutes minutes to heat to 75°C and soaked there for 17 minutes. Stopped reaction and poured into pre-treated trays. Let cool on bench for 15 minutes before putting in the oven. Used program with a 30 minute ramp to 65°C and soaked for two hours. Then cool to 25°C in 30 minutes and soak for 2 hours. Then ramp to 65°C in 8 hours and soak until done.

START program @ 15:00

Shut off 16:00

Checked Flow 8:00am

- a little more than 100"

Put in at 6.5 from 8:30 to 12:00 noon Flow = 54"

Pulled at 12:00 noon

Back in at 65°C at 2:00 checked at 4:00pm - 44" pull

Time From Start of Program: 25 hrs Has cooled

+ 14 hrs

+ 2 hrs

(Total = 31 hrs)

WITNESSED AND UNDERSTOOD

SIGNED

DATE

DATE

SIGNED

DATE

Dale Stokley

DATE

SUBJECT

Phosphor

PROJECT NO. 100-7879

Object: Add 1.5% Phosphor to M618

NB2750-79

HD3887	50.45	50.71	633.98
RE0088	38.52	38.02	494.00
AC8069	1.00	1.00	112.50
TM0498	0.55	0	0
AC0118	8.03	8.07	100.87
QUICKSB Phosphor	1.5	1.50	18.75
	100.00	100.00	1250.00

Note: We saved one pellet in half horizontally + measured filler content on both halves. We saw no significant difference.

Top Half Filler = 1.48%
Bottom Half Filler = 1.50%

Sample Identification		NB2750-79: with Phosphor 1.5%			(Stk: 63.3)		(Am: OH 1.88)	
Slap	Raw material	Formula percentage	Amount added grams	Temp. @ addition degrees Celsius	Low/High Temp. degrees Celsius	Total mix time minutes	vacuum level torr	Comments
1	HD3887	80.71	360.33	Start	34/108	30	6.7"	Added all ingredients with the exception of AC0118 and heated to 104°C. Will soak for 30 minutes before cooling to add AC0118. Total mix time with heat up and soak is 60 minutes. The solution is very homogeneous at this time. Cooled to 67°C and added the AC0118. The temperature dropped to 64°C and heat was reapplied. It took approximately 5 minutes minutes to heat to 75°C and soaked there for 17 minutes. Stopped reaction and poured into pre-treated trays. Let cool on bench for 15 minutes before putting in the oven. Used program with a 30 minute ramp to 85C and soaked for two hours. Then cool to 25C in 30 minutes and soak for 2 hours. Then ramp to 85C in 8 hours and soak until done.
2	RE0088	38.72	280.40	Start	34/108	30	6.7"	
3	AC8069	1.00	7.50	Start	34/108	30	6.7"	
4	Phosphor	1.50	11.25	Start	75/80	30	2.2"	
5	AC0118	8.07	60.53	65	64/75	20	2.2"	
6								
7								
8								
9								

Start program @ 11:00

Checked flour 8:00 am 46"

Checked at 12:00 noon 55" (Pulled at 12:00 noon)

Batch # 20 3:00 check at 4:00 42" full

Total Time 35 hrs
+ 2 hrs = 37 hrs

Note 1st Batch only made 1000 grams - Needed 40 pellets so made a second Batch

NB2750-91

WITNESSED AND UNDERSTOOD

DATE

DATE

SIGNED

DATE

Dale Starkey